

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

Sorting Category: 06.1 (E)

**Precise measurements of dynamic susceptibility near Curie temperature**<sup>1</sup> MATTHEW D. VANNETTE, ATHENA SAFASEFAT, JOERG SCHMALIAN, SERGEY L. BUD'KO, PAUL C. CANFIELD, RUSIAN PROZOROV, Ames Laboratory and Department of Physics & Astronomy, Iowa State University, Ames IA 50011 — We report tunnel diode resonator measurements of the 10 MHz dynamic magnetic susceptibility in the vicinity of the Curie temperature on a variety of ferromagnetic compounds with  $T_c$  ranging from 4.5 K for CeVSb3 to 325 K for LaMn2Ge2. The outstanding sensitivity of the technique allows for a detection of the magnetic signal at pico-emu level. A sharp peak in susceptibility in the critical region is rapidly suppressed by applying relatively weak DC magnetic fields. Measurements are compared to specific heat, resistivity, and DC magnetization data. Results of scaling analysis in the critical fluctuations region are presented.

<sup>1</sup>R.P. acknowledges support from Alfred P. Sloan Research Foundation.

☒  
☐

Prefer Oral Session  
Prefer Poster Session

Matthew D. Vannette  
vannette@iastate.edu  
Ames Laboratory and Department of Physics & Astronomy,  
Iowa State University, Ames IA 50011

Date submitted: 10 Jan 2007

Electronic form version 1.4